

REMARKS

Reconsideration and allowance of the above-identified application is respectfully requested. Upon entry of this amendment, claims 1-16 will remain pending. Applicants appreciate the Examiner's allowance of claims 9, 13, and 14, and the indication that claims 5, 6, 8 and 12 include allowable subject matter. Because claims 1, 2 and 11 from which claims 5, 8 and 12 depend are being amended (claim 6 depends from claim 5), new claims 17-23 are being added which correspond to claims 5, 6, 8 and 12 in their original unamended form.

The Examiner has indicated that claims 1, 2 and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,475,609 to Apothaker, and that claims 3, 4, 7, 11, 15 and 16 are rejected under 35 U.S.C. § 103(a) as being made obvious by Apothaker in view of U.S. Patent 5,844,759 to Hirsh et al. (hereinafter Hirsh).

Applicants respectfully traverse the rejections for the reasons discussed below.

With respect to the rejection of claims 1 and 2, Applicants respectfully submit that the Apothaker patent fails to teach or suggest the features recited in these claims. Specifically, the Apothaker patent fails to teach or suggest that the microcontroller is programmable to receive and process inputs from the line monitoring device to determine the occurrence of a *ground* fault in the load, and to operate the line interrupter circuit when the *ground* fault is detected as recited in amended independent claim 1. Rather, the Apothaker patent discloses a system that monitors an appliance. Specifically, the Apothaker patent discloses a system that monitors the operating current of a load over time and compares the operating current of the load to pre-stored operating parameters for the load. If the operating current for the load is outside the pre-stored parameters, a relay is opened. There is no indication provided in the Apothaker patent that a controller checks for a *ground* fault. Thus, the Apothaker patent does not teach or suggest the embodiment of the invention recited in amended independent claim 1.

With respect to the rejection of claim 10, Applicants respectfully submit that the Apothaker patent fails to teach or suggest the features recited in this claim. Specifically, the Apothaker patent fails to teach or suggest, a manual test switch connected to an input port of the microcontroller, the microcontroller being programmed to operate the line interrupter in

response to activation of the manual test switch, as recited in independent claim 10. There is no indication provided by the Apothaker patent that a manual test switch can be used. As discussed above, the Apothaker patent discloses comparing the operational current of a load over time to a reference current parameter. Specifically, the Apothaker patent discloses in col. 7 lines 13 to 25 that “under program control, the user/operator is instructed to perform three test sequences, each requiring the appliance to be operated over at least one complete cycle.” The test sequence is further described as an applied AC voltage being held constant or being stepped through a range of values for either a constant load or a maximum load for an appliance. Thus, the test does not apply to operating a line interrupter circuit. Rather, the test *varies* an AC voltage or a load. Furthermore, the microcontroller performs all functions.

With respect to the rejection of dependent claim 4, neither the Apothaker patent or the Hirsh patent teach or suggest the microcontroller’s output comprising sufficient current to test the detector circuitry, but insufficient to activate the line interrupter circuit, as recited in dependent claim 4. Rather, the Apothaker patent only discloses monitoring the current of a load over time for an appliance. There is no indication that internal components of the test device are also tested. Similarly, the Hirsh patent only discloses a test device that monitors the current of a load for faults. That is, both the Apothaker patent and the Hirsh patent disclose monitoring for *external* faults. Thus, neither the Apothaker patent or Hirsh patent together or separately teach or suggest the embodiment of the invention recited in dependent claim 4.

With respect to the rejection of dependent claim 5, neither the Apothaker patent or the Hirsh patent teach or suggest, operating the indicator to provide notification upon detection by the microcontroller of the occurrence of at least one of a plurality of conditions including successful completion of a self-test, successful completion of a manual test, unsuccessful completion of the self-test, unsuccessful completion of the manual test, the need for a user to initiate the manual test, testing of the line interrupter to ensure proper function thereof, and testing power to the microcontroller to determine whether a reverse line load condition exists. The Apothaker patent does not disclose an indicator, and the indicator disclosed in the Hirsh patent indicates “the detection of a fault condition” col. 11 line 1. Thus, neither the Apothaker patent or Hirsh patent together or separately teach or suggest the embodiment of the invention recited in dependent claim 5.

With respect to the rejection of dependent claim 7, neither the Apothaker patent or the Hirsh patent teach or suggest, a reverse line load detector circuit coupled to said microcontroller to ensure that said microcontroller is receiving power, as recited in dependent claim 7. Specifically, neither the Apothaker patent or the Hirsh patent disclose the term “reverse line”. Therefore, neither patent discloses detecting for reverse line. Furthermore, Applicants would like to point out that the inventions disclosed in the Apothaker patent and the Hirsh patent are plug type devices for appliances. Appliances use *polarized plugs*. Thus, the inventions disclosed in the Apothaker patent and the Hirsh patent cannot be reverse wired, and do not teach or suggest the embodiment of the invention recited in dependent claim 7.

With respect to the rejection of independent claim 11, neither the Apothaker patent or the Hirsh patent teach or suggest, that the microcontroller is programmable to receive and process inputs from the line monitoring device to determine if the load is in open state due to an external condition not relating to the load, as recited in independent claim 11. Both the Apothaker patent and the Hirsh patent require the load to be monitored in order to detect a fault. However, the embodiment of Applicants invention recited in independent claim 11 allows the microcontroller to monitor external conditions not related to the load. Therefore, the Apothaker patent and the Hirsh patent do not teach or suggest the embodiment of the invention recited in independent claim 11.

With respect to the rejection of dependent claim 12, neither the Apothaker patent or the Hirsh patent teach or suggest, the external condition includes a shock or vibration, as recited in dependent claim 12. As argued with respect to independent claim 11, the Apothaker patent and Hirsh patent monitor the current of a load, which is an electrical condition. The Apothaker patent and Hirsh patent do not monitor a physical condition such as a shock or vibration. Therefore, the Apothaker patent and the Hirsh patent do not teach or suggest the embodiment of the invention recited in dependent claim 12.

For all the above reasons, Applicants respectfully submit that independent claims 1, 2, 10 and 11 should be found patentable. Independent claim 15 contains limitations similar to those found in independent claim 10, and independent claim 16 contains limitations similar to those found in independent claim 11 and should also be found patentable. Dependent claims 3-8 and 12 depend either directly or indirectly from

independent claims 1, 2, 10, 11, 15 and 16 and should also be found patentable. Accordingly, it is believed that the application is in condition for allowance and notice to this effect is respectfully requested.

Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the telephone number indicated below.

Respectfully submitted,



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